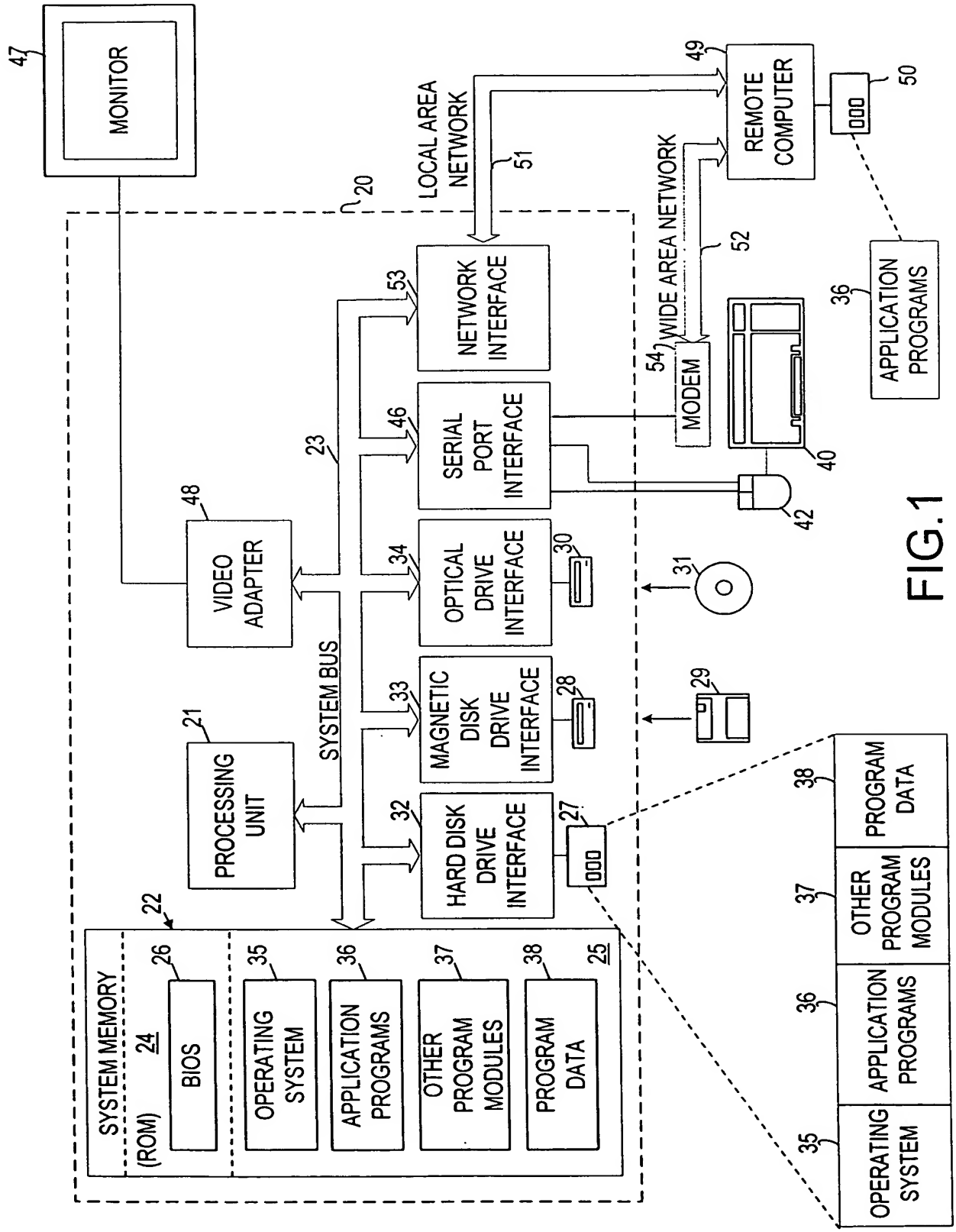
47
MONITOR
20
LOCAL AREA NETWORK
51
49
REMOTE COMPUTER
50
APPLICATION PROGRAMS
36
WIDE AREA NETWORK
52
54
MODEM
53
NETWORK INTERFACE
46
SERIAL PORT INTERFACE
40
42
23
48
VIDEO ADAPTER
34
OPTICAL DRIVE INTERFACE
30
31
SYSTEM BUS
21
PROCESSING UNIT
33
MAGNETIC DISK DRIVE INTERFACE
28
29
32
HARD DISK DRIVE INTERFACE
27
22
SYSTEM MEMORY
(ROM) 24
26
BIOS
35
OPERATING SYSTEM
36
APPLICATION PROGRAMS
37
OTHER PROGRAM MODULES
38
PROGRAM DATA
25
38
PROGRAM DATA
37
OTHER PROGRAM MODULES
36
APPLICATION PROGRAMS
35
OPERATING SYSTEM

FIG. 1

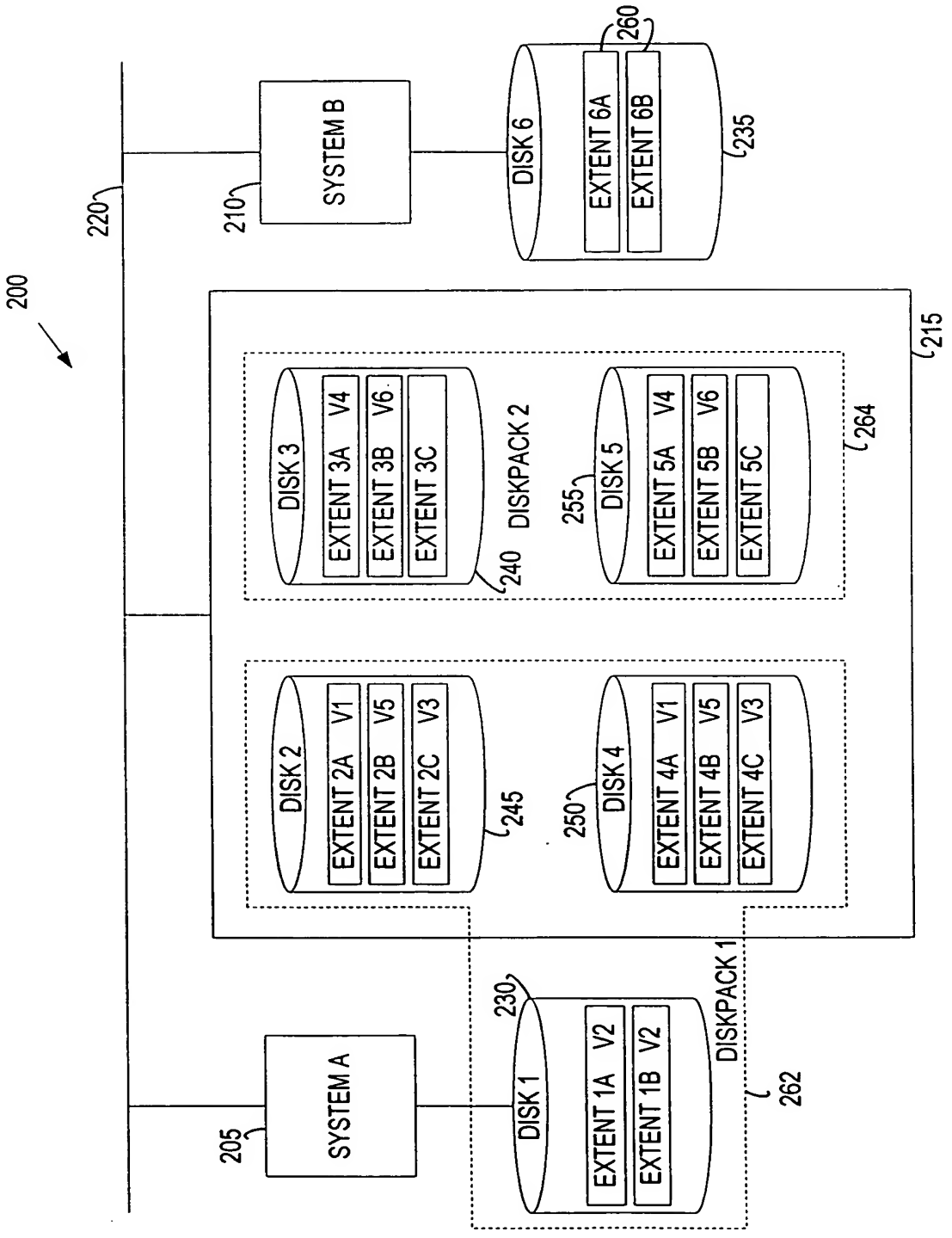
200
220
210
SYSTEM B
DISK 6
EXTENT 6A
EXTENT 6B
260
235
215
DISK 3
EXTENT 3A V4
EXTENT 3B V6
EXTENT 3C
240
DISKPACK 2
255
DISK 5
EXTENT 5A V4
EXTENT 5B V6
EXTENT 5C
264
DISK 2
EXTENT 2A V1
EXTENT 2B V5
EXTENT 2C V3
245
250
DISK 4
EXTENT 4A V1
EXTENT 4B V5
EXTENT 4C V3
230
DISK 1
EXTENT 1A V2
EXTENT 1B V2
DISKPACK 1
262
205
SYSTEM A

FIG.2

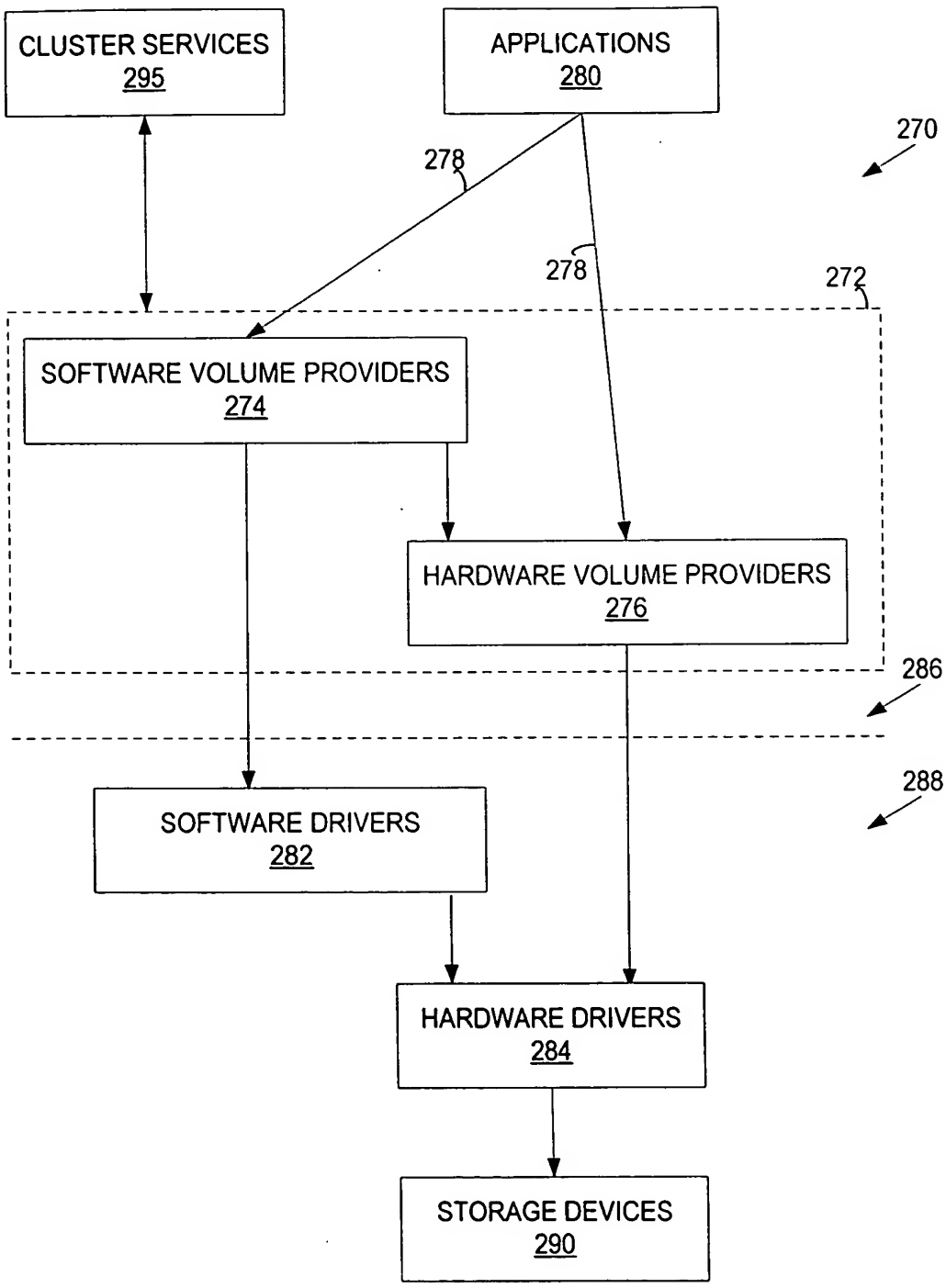
CLUSTER SERVICES
295
APPLICATIONS
280
270
278
278
272
SOFTWARE VOLUME PROVIDERS
274
HARDWARE VOLUME PROVIDERS
276
286
288
SOFTWARE DRIVERS
282
HARDWARE DRIVERS
284
STORAGE DEVICES
290

FIG.3

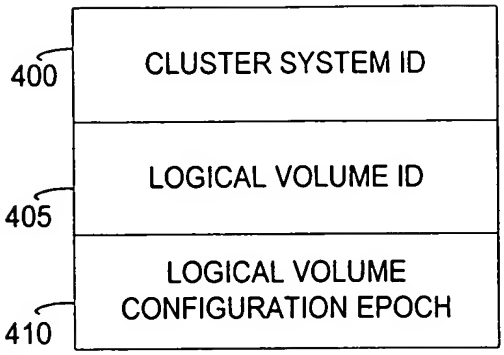
400
CLUSTER SYSTEM ID
405
LOGICAL VOLUME ID
410
LOGICAL VOLUME CONFIGURATION EPOCH

FIG.4

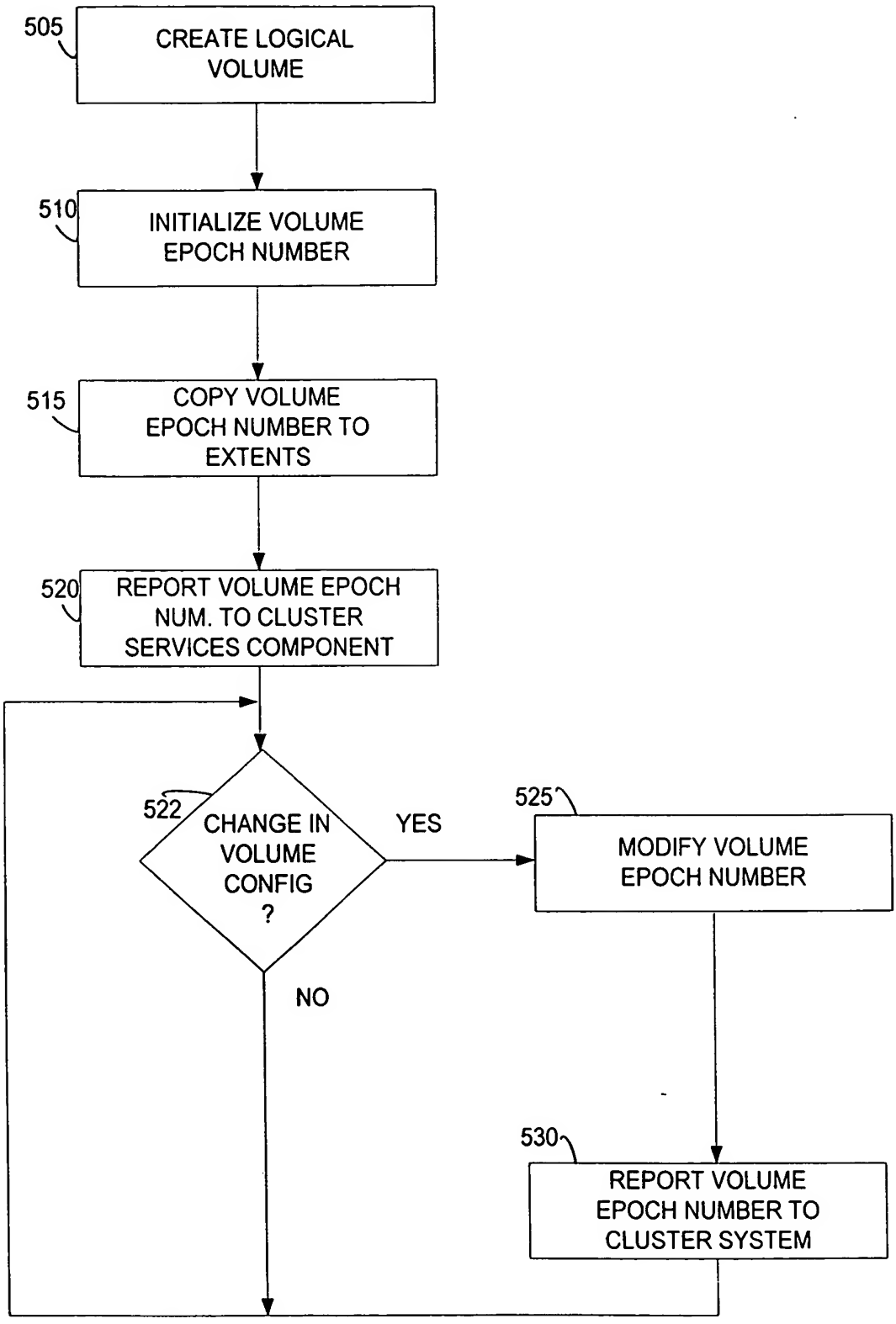
505
CREATE LOGICAL VOLUME
510
INITIALIZE VOLUME EPOCH NUMBER
515
COPY VOLUME EPOCH NUMBER TO EXTENTS
520
REPORT VOLUME EPOCH NUM. TO CLUSTER SERVICES COMPONENT
522
CHANGE IN VOLUME CONFIG ?
YES
525
MODIFY VOLUME EPOCH NUMBER
NO
530
REPORT VOLUME EPOCH NUMBER TO CLUSTER SYSTEM

FIG.5

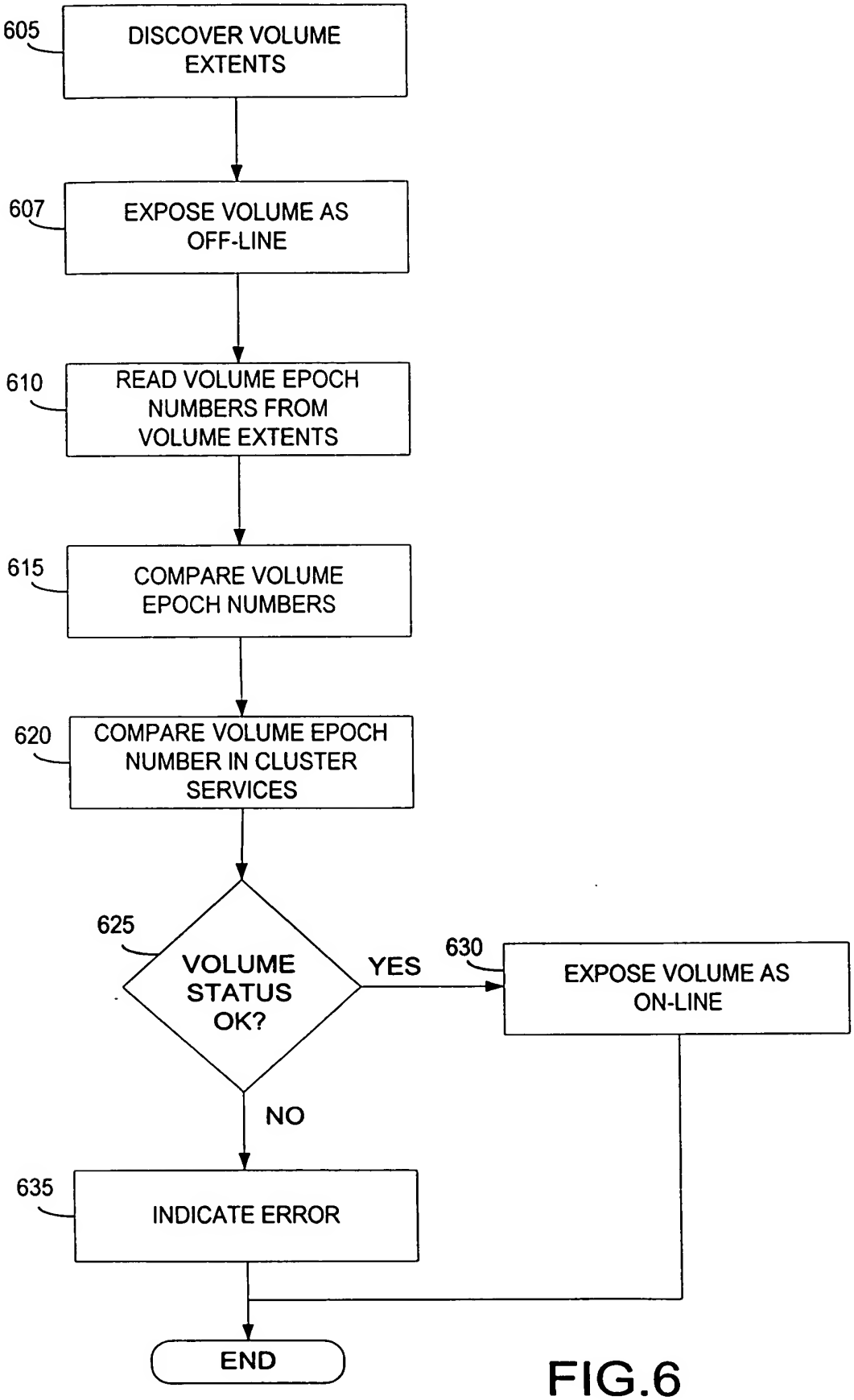
605
DISCOVER VOLUME EXTENTS
607
EXPOSE VOLUME AS OFF-LINE
610
READ VOLUME EPOCH NUMBERS FROM VOLUME EXTENTS
615
COMPARE VOLUME EPOCH NUMBERS
620
COMPARE VOLUME EPOCH NUMBER IN CLUSTER SERVICES
625
VOLUME STATUS OK?
YES
630
EXPOSE VOLUME AS ON-LINE
NO
635
INDICATE ERROR
END

FIG.6